NUMBER THREE NOTES FROM THE SHOP

Woodsmith™



SUPER OUTDOOR ISSUE

DETAILED PLANS FOR GARDEN BENCH FOLDING CHAIR PLANT BOXES

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Talking Shop

WASTE NOT, WANT NOT

It's probably my Swiss-German heritage. (Both sides of my family came from the German part of Switzerland.) But something inside me says that if you buy $50 worth of wood for a project, you shouldn't have $25 in scrap lying on the floor when you're done.

That's why I take the extra time to design projects with as little waste as possible. It's important that the project looks good, and that it's built to last, but I just can't bear to waste a lot of wood in the process.

You've probably noticed that I include a Cutting Diagram with almost every project. (I still don't understand why other magazines and plan services don't do this.) The cutting diagram is one of the first things I work out when I design something. And very often the design changes if too much waste shows up on the cutting diagram.

Another reason for including this diagram is to define how much wood is needed for the project. Most plans I see only include a materials list. I think that list is essential, but it kind of leaves you hanging when you go out to buy the wood. Most of the time you have to make a "stab in the dark" estimate. And then go back and buy more if you were short.

One last thing about the cutting diagram. The length and width dimensions are not always drawn to the same scale. That is, a board 4" wide and 8' long may look like it's 12" wide and 6' long. This happens because the width measurement is exagerated for clarity. So, go by what's written, not how it looks in the diagram.

GROUND RULES

I wanted to mention one of the ground rules I have for the projects shown in *Woodsmith.* Most of the projects are designed to be built with only two major power tools: a table saw and a drill press.

A table saw? Why not a radial arm saw? The debate between table saw vs. radial arm saw has been going on for years. I just happen to prefer a table saw for furniture building and cabinet making. But I hope I'm not offending (or causing an inconvenience) for those of you with radial arm saws. Anyway, it really doesn't matter what kind of saw you have as long as it cuts wood the way you want it to. (Enough said.)

Concerning the drill press. I consider my drill press my second most important piece of major equipment. I know some would say that a jointer is more important, but I would put a jointer a close third behind the drill press for most of the projects shown in *Woodsmith.*

If you don't already have a drill press and you have a limited budget for tools, you should at least consider getting a *Portalign* (that sells for about $20) or a *Craftman Drill Stand* (about $50). Both of these drill stands accept most portable electric drill, and they sure help drill holes that are straight and true.

To those of you with complete shops: get to work. Don't let that equipment get rusty.

LETTERS

One of the problems with publishing is that I rarely get the chance to meet those of you who read *Woodsmith* and get your reactions to the articles. I do my best to include articles that I think will be of most interest to the most readers. But sometimes I don't know if I'm on the right track or not.

Which brings me to this point. If there is an article in *Woodsmith* that you especially like (or don't like), write in and let me know. I read every letter and note that comes in. And, I try my best to respond (if necessary), though sometimes it takes a while to get to my letter writing chores.

This leads me to a letter I received the other day from Roger Ziegler of Jefferson, Wisconsin. He wrote, in part:

> I enjoyed the article on table saw techniques especially. I do own a relatively good table saw, and your article on the box joint was the clearest instruction I've seen to date. The same goes for your work on raised panel door construction techniques.
>
> I hope you are planning further articles on techniques with the table saw, along with other woodworking tools. I hope you include some on the router, along with corresponding projects. Although I don't own some other major woodworking tools (lathe, jointer, band saw, jigsaw, drill press, shaper, etc.) I would still enjoy articles relating to them and associated projects.

Thanks, Roger, for your comments (and compliments). I had been debating about articles on other major woodworking equipment. But in future issues I will start including articles like this.

NEXT MAILING: July, 1979

Redwood Plant Tub

There used to be a cooper in almost every village who made wooden barrels and pails. It was quite an art. The idea of building something round out of flat boards intrigued me, so I just simplified the concept to make this plant tub. It only takes two redwood or cedar boards (1x4-8') and part of an evening to revive this almost lost art.



Cutting the sides is not difficult at all. Follow the dimensions and the bevel angles shown in the drawing below. Once the sides are cut to length, bevel the edges: 15° for twelve sides, 18° for ten sides. I cut the shallow, curved groove 3" from the top and bottom of each side with a molding head cutter.

From the wood that's left over after cutting the sides, cut three bottom pieces 11" long for the 10-sided planter, or four pieces 13" long for the 12-sided one. Treat the sides and bottom pieces with a wood preservative before assembly.

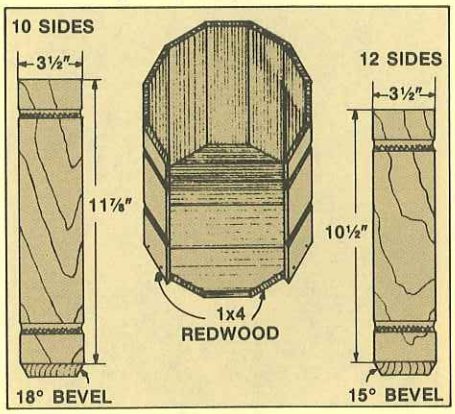
Assemble the bottom pieces first and set them aside to dry. I used a waterproof panel adhesive (the kind that comes in a tube) because it's cheap, strong, and easy to use.

Assembling the sides is the tricky part. Apply a bead of panel adhesive to the edges of each side. Then press them together. This is a little awkward, so you might ask for an extra set of hands.

Use a band clamp (*Stanley* sells one for about $5) to pull them tight, adjusting the position of the pieces as you tighten. If you don't have a band clamp, you can use lengths of ¼" rope.

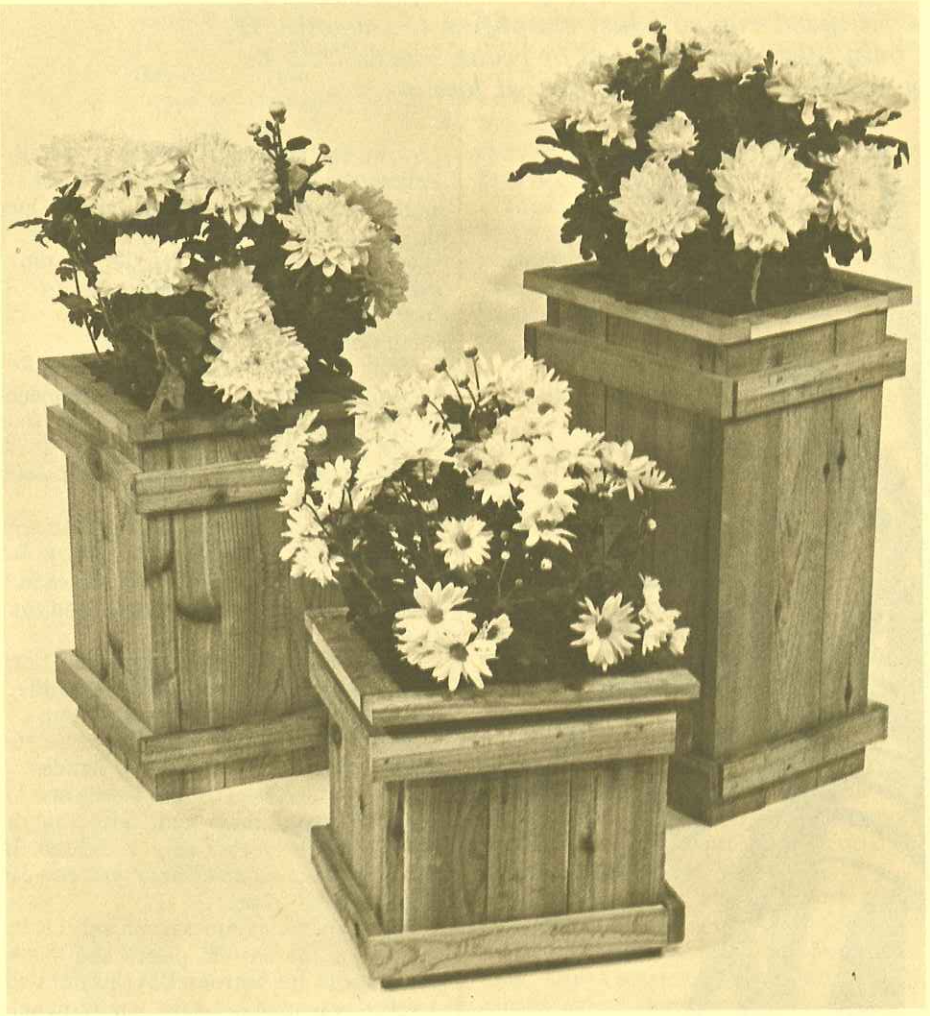
When the sides are assembled, place them over the bottom pieces and mark the shape of the bottom. Cut this out with a sabre saw or hand saw. Apply panel adhesive to the edges and nail it in place with 6d finishing nails, counter-sinking and filling with wood putty.

Finish the planter by tying two 8' lengths of rope around it, using square knots at the back or securing the ends with heavy-duty staples.



Cedar Plant Pillars

EASY-TO-BUILD BOXES ESPECIALLY FOR PLANTS



Ranking near the top of my list of favorite things to do is planting flowers and watching them grow and blossom. Of course, at the top of the list is building things of wood. So, these plant pillars were a terrific project for me.

I chose resawn (textured) 1x4 cedar for this project, but rough-cut cedar or surfaced redwood also would be good choices. The Cutting Diagram is organized for building all three planters (12", 18", and 24" high).

Go ahead and cut all of the pieces to length and width. Then give them a liberal coat of wood preservative. (I used *Cuprinol No. 20.*)

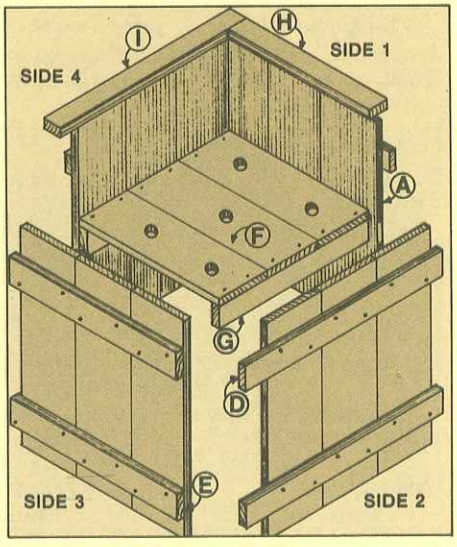
The assembly procedure I used made quick work of putting these planters together. Here's the procedure: For Sides 1 and 3 (see Assembly Diagram) lay down the three side pieces (A, B, or C), then place two of the 11¼" cleats (E) on top. These cleats should be 1½" from the top and bottom, flush on the right side, and extend 3/4" on the left side. For Sides 2 and 4, use the 12-3/4" cleats (D). Here the cleats extend 3/4" on the right side, and 1½" on the left.

Whack together all of the sides for all three planters with 4d galvanized box nails. Then assemble the sides so that Sides 1 and 3 overlap the edges of Sides 2 and 4.

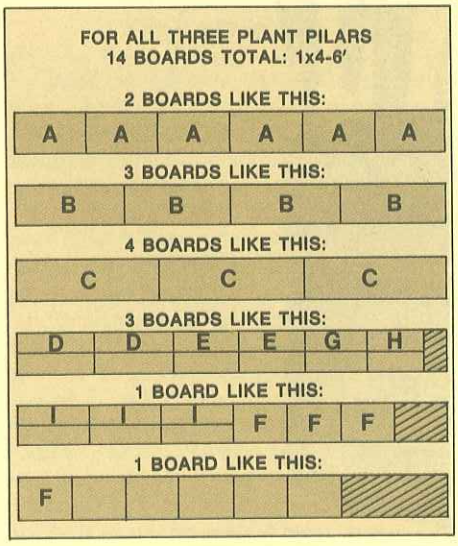
For the bottom platform, drill 3/4" drain holes in the 9" pieces (F) and nail them to the 10½" cleats (G). Slide the platform down into the box to the depth you want (about 8" down is good for most plants) and nail it in place through the sides.

Add the cap pieces (H and I) to protect the end grain. Then give everything a second coat of preservative, or line the boxes with plastic (heavy-duty garbage bags do a good job). Now plant your favorite flowers and enjoy.

ASSEMBLY DIAGRAM



CUTTING DIAGRAM



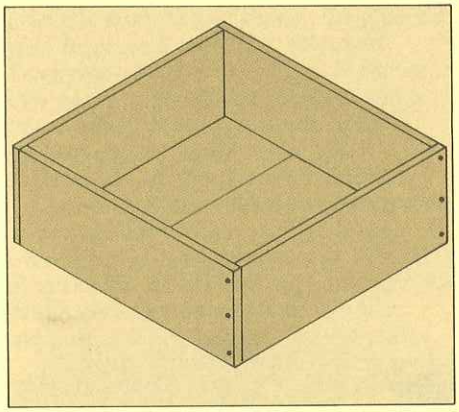
MATERIALS LIST

Code	Piece	No.	Dimensions
A	Sides	12	1 x 4 - 11¾
B	Sides	12	1 x 4 - 17¾
C	Sides	12	1 x 4 - 23¾
The following are for each box. () = total			
D	Side cleat	4 (12)	1 x 2 - 12¾
E	Side cleat	4 (12)	1 x 2 - 11¼
F	Platform	3 (9)	1 x 4 - 9
G	Plat. cleat	2 (6)	1 x 2 - 10½
H	Cap	2 (6)	1 x 2 - 9
I	Cap	2 (6)	1 x 2 - 12

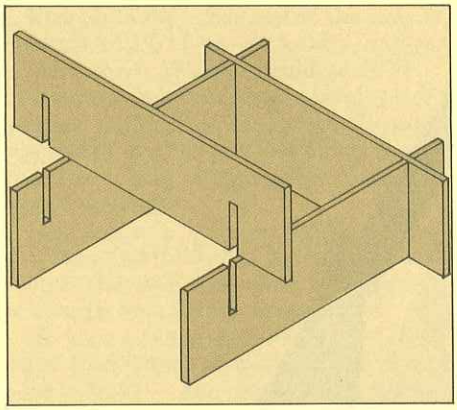
Misc: 4d Gal. Box Nails; 1 Qt. Cuprinol

The Amazing Basic Box

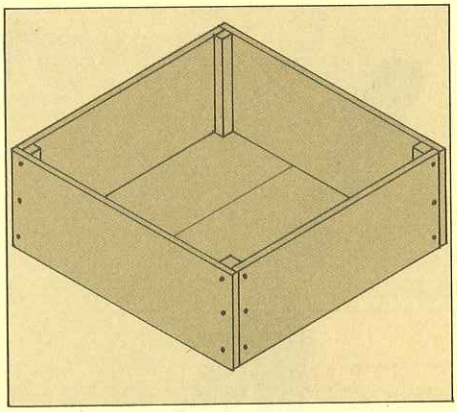
DON'T BOX-IN YOUR IMAGINATION



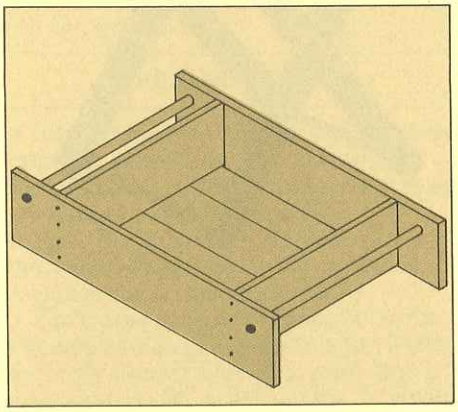
1 *Basic Construction.* Overlap ends of boards as shown for strongest construction with butt joints. For square box, cut boards the same length.



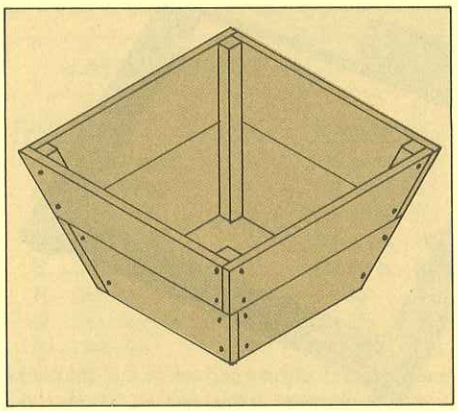
2 *Cross-Lap Joint.* Cut a notch equal to the thickness and half the width of the board. Can be easily disassembled. Use corner nailers for extra strength.



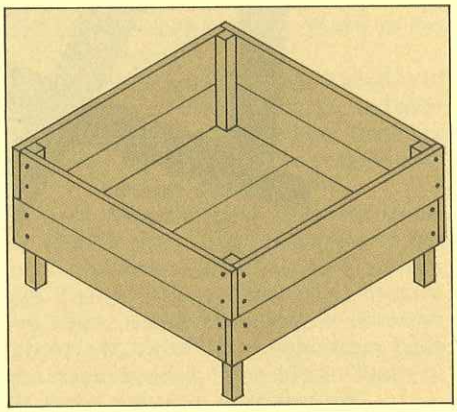
3 *Corner Nailers.* For box with no end grain showing on front side, use corner nailers for extra strength. Nail through sides into nailers.



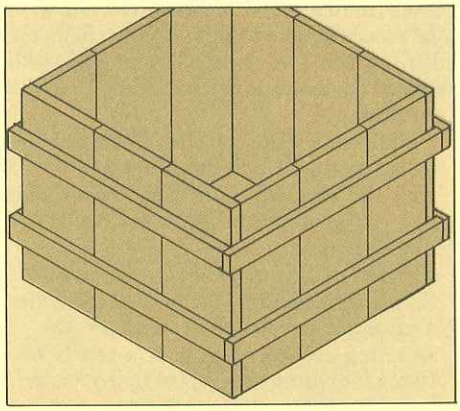
4 *Extend The Sides.* Cut two sides longer, drill holes, and add dowels for handles. Sides should only be wide enough to carry comfortably.



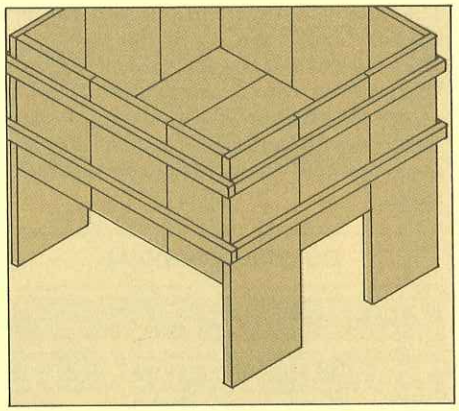
5 *Tapered Sides.* Tapering the sides (usually 15° or 20°) produces a trapezoidal box. Top edges should also be beveled at same degree as taper.



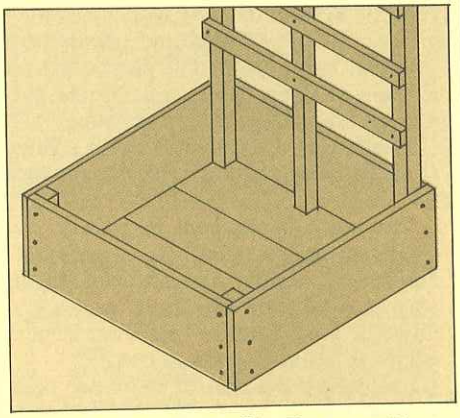
6 *Nailers As Feet.* Raise the box off the ground by extending nailers as pedestals. Drawing also shows how to alternate boards for taller sides.



7 *Cleats For Strength.* If you want the boards to run vertically, add cleats to the sides. For strength, overlap the cleats as you would the sides in No. 1.



8 *Sides As Legs.* Cut four of the sides longer to raise the box as a plant stand. Add a crosspiece (stretcher) at the bottom of the legs for stability.



9 *Nailers As Trellis.* For a trellis, extend the corner nailers adding one in the center, then attach lattice strips. This can be done on two sides.

Canvas Deck Chair

COMBINE REDWOOD AND CANVAS FOR OUTDOOR RELAXATION





Once the weather turns warm, everyone starts dusting off their lawn furniture. With most lawn furniture you have two choices: aluminum frames and plastic web, or bulky redwood and plastic pads. In either case, when that plastic sits out in the sun for a few hours, it gets hot enough to bake your bottom side.

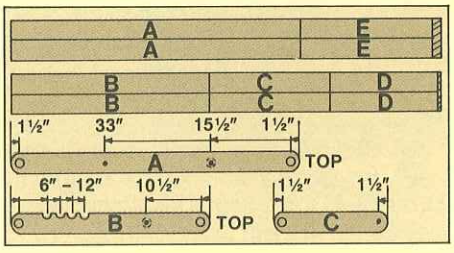
That's why I decided to build a lawn chair with soft, comfortable canvas to sit on.

The chair shown here meets my requirements for comfort . . . plus it's a "no-waste" design. All you need (in the way of wood) are two 2x4-6′ and a 1″ dowel 4′ long. There's less than 2″ of waste to build the whole chair. (Considering the cost of redwood, that makes it extra comfortable to your back pocket.) If you want to buy 8′ 2x4s (instead of the 6-footers) you'll have enough left over to build the camp stool so you can prop your feet up.

CUTTING THE WOOD

The Cutting Diagram is quite simple. Just rip both 2x4s right down the middle. Then cut each of the ten pieces to length. Use a router with a "corner round" bit to round off all four edges of two of the stretchers (D) and (E). (I put the pieces in a vice to hold them while routing the edges.)

CUTTING DIAGRAM



The Drilling Diagram shows the position of all the holes. There are only two sizes: 3/8″ and 1″. Drill countersink holes (indicated with the dotted circle) on the *inside* faces of sides (A) and (B) before drilling the 3/8″ hole. (The countersink should be deep enough to accept a washer and hex nut.)

The slots on the top edge of side (B) are drilled with a 1″ bit centered 3/4″ down from the top. After drilling these holes trim the corners so the bar will slide into them easily.

I thought I'd mention that I used a *Stanley Power Bore* bit to drill the holes. It gives a nice clean cut without the "splitting-out" problems of a spade bit. Also, all drilling should be done on a drill press for greatest accuracy.

The only holes that are not shown on the Drilling Diagram are those in the ends of stretchers (D) and (E). These 1″ holes should be drilled to a depth of 3/4″.

ASSEMBLING THE CHAIR

No problems with assembly. The chair is just two interlocking frames with the back support bars (C) added.

Assemble the frames with 2-3/8" dowel pins cut from the 1" dowel. To glue the pins in place I used *U.S. Plywood Resorcinol Waterproof Glue.* It comes in two parts: a powdered catalyst and a liquid resin. Mix up a batch using 4 tablespoons of liquid resin and 3 tablespoons of the powered catalyst.

Clamp each assembled frame together with two bar clamps and let it dry overnight (at least 10 hours at 70°). Also glue the 28" dowel into support bars (C). Make sure the frames and the bar support are not "cocked" as they dry.

When the glue is dry, use a belt sander to sand off the ends of the dowel pins sticking out. Then join the two frames with 3/8"x3" carriage bolts. Slide the bolt through side piece (A), add two spacing washers, then push the bolt through side piece (B). Add a washer and the hex nut. Then bolt the support bars to the frame (A) the same way.

THE CANVAS BACK

A few words about canvas: Canvas duck comes in several weights that are designated by either a number or ounces per squard yard. For this chair I'd suggest No. 8 duck, or 18 ounce. (Look in the Yellow Pages under Canvas Goods, or Awnings for a canvas supplier.)

You'll need a piece of canvas 24" by 53". The canvas I bought came in a 54" width, so I only needed 2/3s of a yard. But it may come in 44" or 45" widths, in which case you'll need 1½ yards.

The canvas is cut to the shape shown in the drawing. First cut out a piece of canvas 23½" by 53". Start at the top end and measure down 6", keeping the same 23½" width. (This 6" section is the part that wraps around the stretcher.

Now go to the other end of the canvas, measure in 1½" from both sides, and put a mark there. (There should be 20½" between the marks.) Now measure up 6", keeping the 20½" width, to get the same squared off section you just did on the top end. Use a long straight-edge to connect the 6" sections.

Now fold a ½" hem on the long edges, and then fold it over ½" again. (This is to protect the raw edge.) Sew this double hem with heavy-duty thread.

(If your sewing machine won't take three thicknesses of canvas, fold it only once — in 1" — and use a zig-zag stitch.)

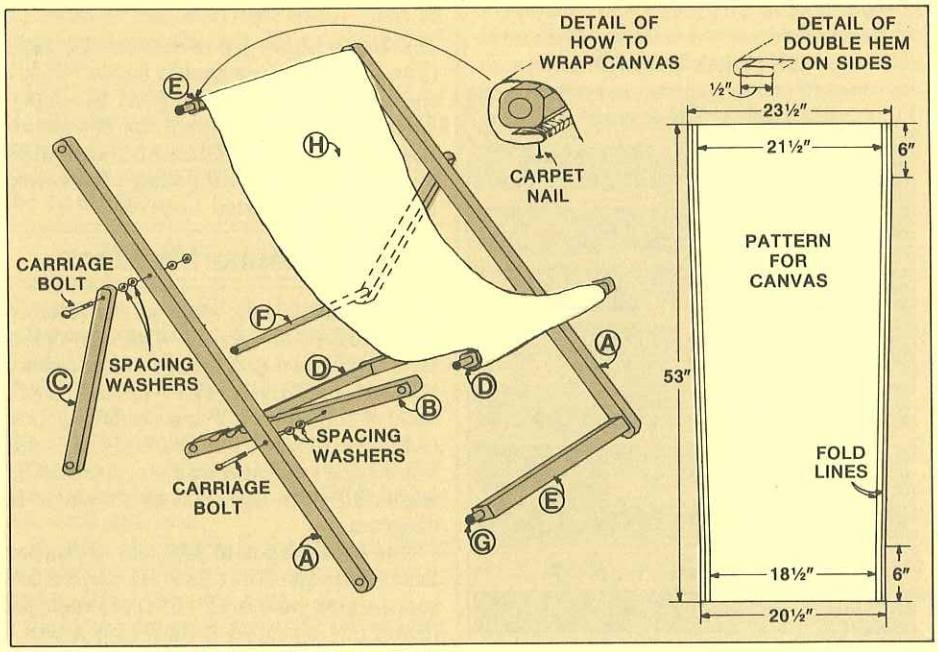
Once the canvas back is hemmed and the chair is assembled, stretch the canvas over the two rounded stretchers and tack it in place with 5/8" carpet nails.

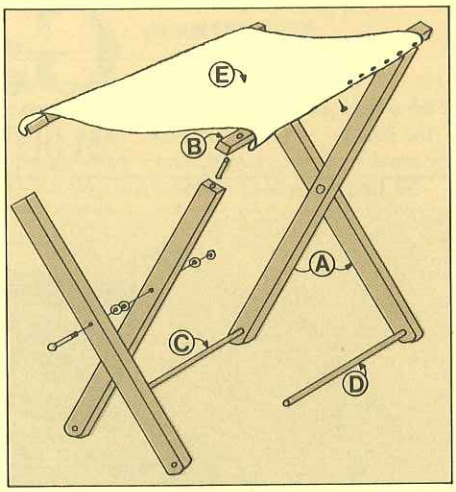
That's it. Take the chair out into the sun, sit down, and enjoy the day.

MATERIALS LIST — CHAIR

Code	Piece	No.	Dimensions
A	Side (leg)	2	1½ x 1¾ - 48
B	Side (leg)	2	1½ x 1¾ - 33
C	Support	2	1½ x 1¾ - 20
D	Stretcher	2	1½ x 1¾ - 18½
E	Stretcher	2	1½ x 1¾ - 21⅝
F	Dowel	1	1 x 28
G	Dowel pins	8	1 x 2⅜
H	Canvas	1	24 x 53

Misc: (4) ⅜ x 3" carriage bolts; (12) washers; (4) nuts; ⅝" carpet tacks; resorcinol glue.





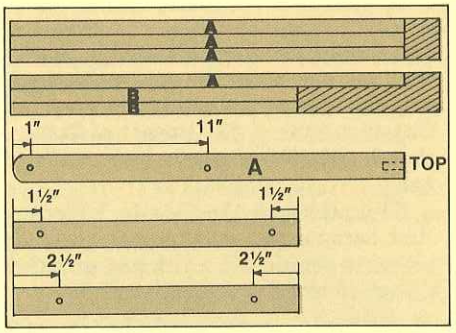
CAMP STOOL

This camp stool is a nice companion piece to the folding chair.

The Cutting Diagram shows how the cuts are laid out on the 2' sections of 2x4s. (Each 2x4 is ripped into three parts, each 1" wide.) Countersink 3/4" holes on the *inside* face of two of the legs. Then drill 3/8" holes in each piece as shown in the Drilling Diagram.

Assemble (A) and (B) with 2" lengths of 3/8" dowels and resorcinol glue, and glue the rungs (C) between the legs. Once the glue is dry assemble the two frames with 3/8"x2" carriage bolts.

I used the same kind of canvas as on the folding chair. Cut the canvas to the rough dimensions shown in the Materials List. Then sew the double hem on the two long edges. Attach the canvas to the cross supports (C) with brass upholstery nails (the round-headed, fancy kind). That's it. Sit down and prop your feet up.



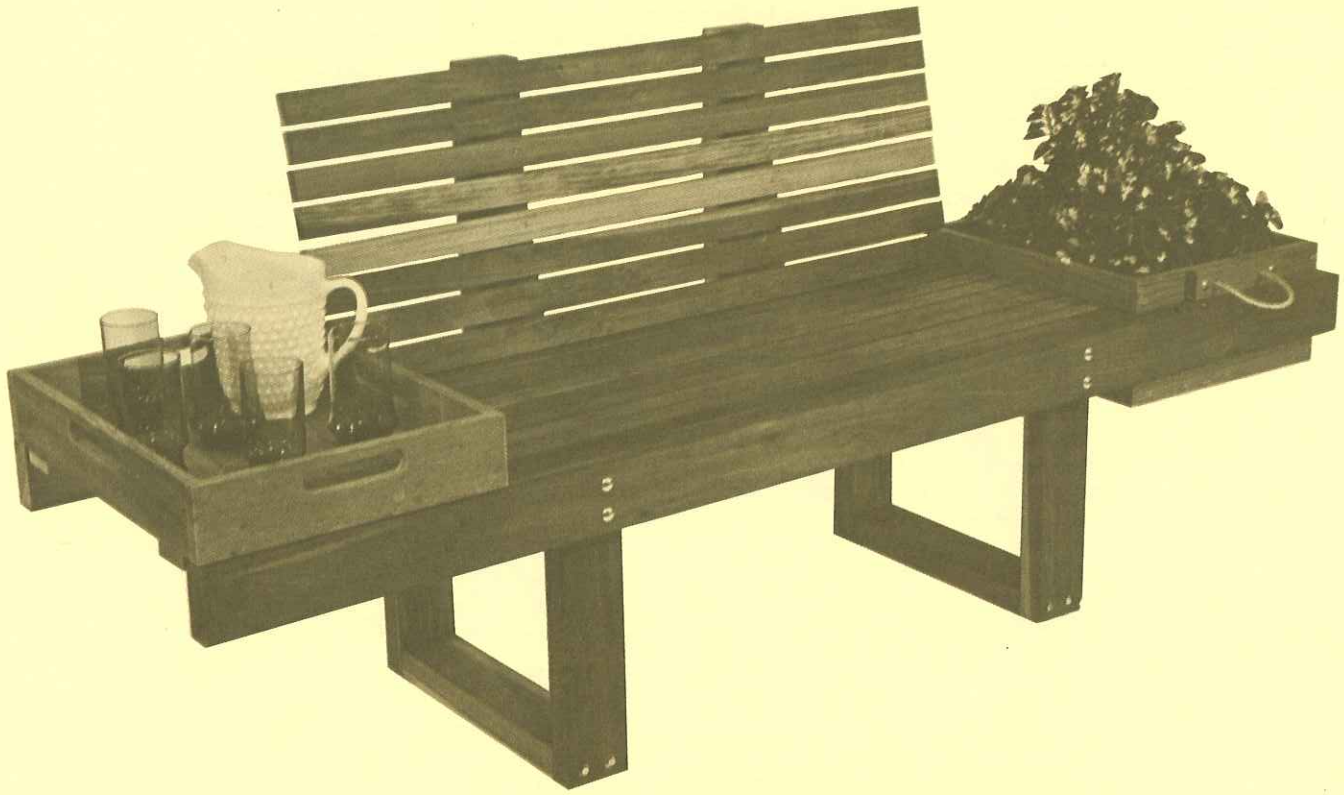
MATERIALS LIST — CAMP STOOL

Code	Piece	No.	Dimensions
A	Legs	4	1 x 1½ - 22
B	Top Supports	2	1 x 1½ - 16
C	Rung (dowel)	1	⅜ x 12
D	Rung (dowel)	1	⅜ x 14¼
E	Canvas	1	17 x 20

Misc: (2) ⅜ x 2" carriage bolts; (6) washers, (2) hex nuts; upholstry nails.

Garden Bench

BUILD IT, THEN LEAN BACK AND RELAX



It's a warm summer's day and you decide to go out and enjoy the sunshine. You sit down on a garden bench and lean back. To your right is a tray with a cool pitcher of lemonade (made in the shade), and to your left is a planter filled with flowers . . . that's the life!

The thing I like most about this bench is that you can build the entire thing with just eight 6-foot 2x4s and two 6-foot 1x4s. Out of a total of 48′ (linear) of 2x4s, there's only 18″ of waste. Now that's not bad!

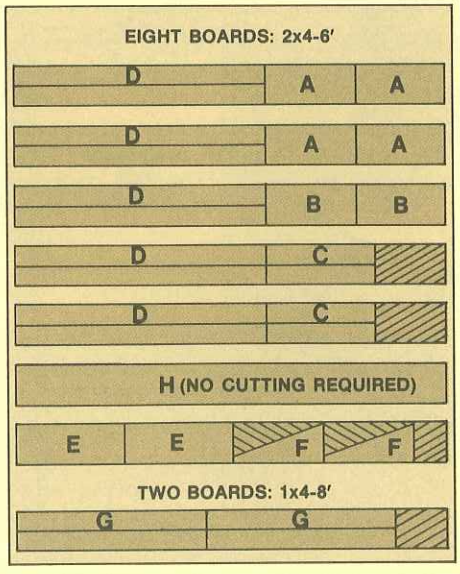
I'll go through the Cutting Diagram first because you want to cut all of the pieces to length and width and give them a coat of wood preservative *before* assembly.

From the eight 2x4s select a nice-looking one for the front piece (H). Put this one, and one other (for the back), aside — no cutting is required. (Pretty easy so far.)

Cut 42″ lengths off five of the remaining 2x4s. Rip these lengths right down the middle for the seat (D). With what remains from the five, cut and rip pieces (A), (B), and (C). From the last 2x4 cut the back supports (E) to length. Then cut off 15″ lengths for the tapered pieces (F). Use a taper jig to cut the 12° taper. (The finished piece should be 3½″ wide at the bottom and 3/8″ wide at the top.)

Rip the two 1x4s down the middle and cut off 42″ lengths. That takes care of the cutting. Now coat all pieces with a wood preservative. (I used *Cuprinol.)*

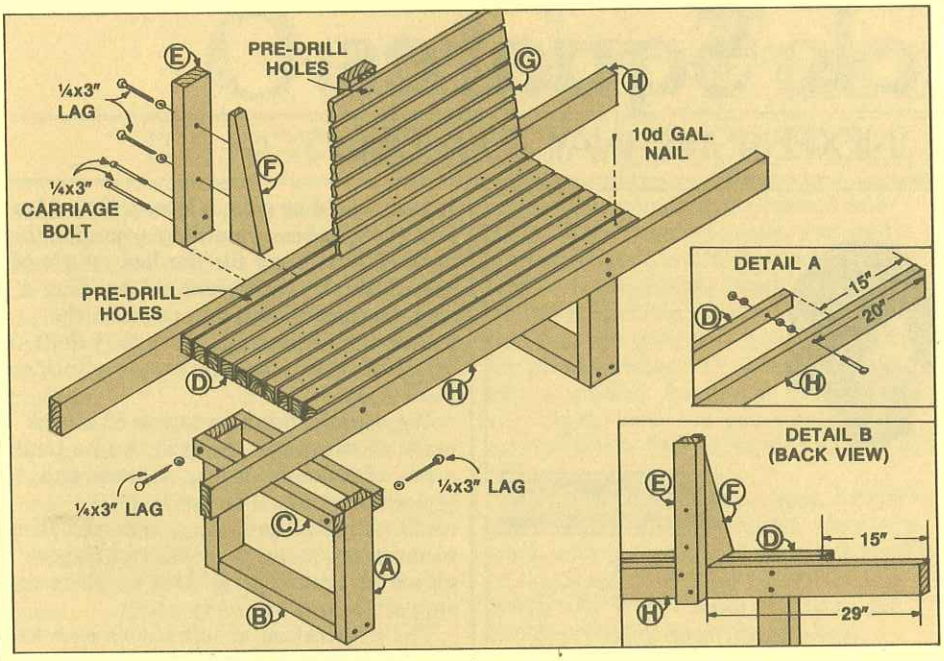
CUTTING DIAGRAM



ASSEMBLING THE BENCH

For assembly, just start at the bottom and work your way up. The legs come first. Drill two 3/4″ countersink holes at the bottom of the legs (A). Then drill pilot holes for the ¼″ x 3″ lag screws through (A) and into stretcher (B). Only drill pilot holes (don't countersink) in pieces (C). Assemble both leg units as shown in the diagram.

The next step is to join one of the seat 2x2s (D) to the front 2x4 (H). Drill a 3/4″ countersink hole in (D) 5″ from each end. (Since (D) is ripped from a 2x4, it will be



1½" by about 1-3/4". Make sure you drill the countersink hole on the 1-3/4" face.)

Now center (D) on the front piece (H) — (D) will be 15" in from each end. Drill ¼" holes through the countersink holes in (D) and through (H). This hole should come out 20" from the end of (H) — but "close enough" is okay.

When the holes are drilled, slide a carriage bolt through (H), add three spacing washers, push it through (D), and fasten with a washer and hex nut.

On the back 2x4 piece (H) you go through the same procedure except you attach the back support (E) first. The edge of the back support (E) is located 29" from the end of (H), as shown in Detail B. Drill two ¼" holes (offset from center, as shown) through (E) and (H). Join (E) and (H) with ¼"x3" carriage bolts. Then go ahead and add the 2x2 (D) as you did on the front.

Both of these assemblies (D bolted to H) should now be bolted and nailed to the leg assemblies. Drill ¼" holes through (H) and into the legs (A), and nail (D) to the cleats (C).

THE SEAT AND BACK

The seat is next. Since the redwood is a softwood and fairly light-weight, you'd think it would be easy to nail the 2x2s (D) to the leg assemblies. It's not. I'd suggest predrilling 3/32" holes before you drive the 10d galvanized casing nails. Use scraps of ¼" plywood to get the proper spacing between each of the 2x2s before you drill and nail.

By now the bench is far enough along so you can sit down and take a short break. Okay, break's over.

Hold the tapered piece (F) up against the back support (E) and drill a countersink hole and pilot hole for ¼"x3" lag screws (as shown in Detail B). The holes are spaced 6" and 12" up from the bottom of piece (E).

With this done, turn the bench on its back and drill a pilot hole through the bottom of (D) into (F) for a ¼"x3" lag screw.

The last step is to add the back pieces (G). One at a time, put the 1x2s in place, using ¼" plywood scraps as spacers, adjusting the space as necessary. Predrill 3/32" holes and drive in 10d galvanized casing nails.

When you get near the top, make sure you angle the nails so they don't stick out the back.

That's it. You've got a garden bench. Sit down, lean back, and have a glass of lemonade (on me). I thought it would be nice to have a tray to carry the lemonade, and a planter box for some flowers. So, get back to work and build them.

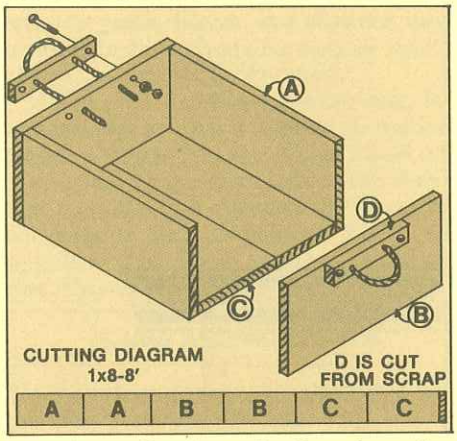
MATERIALS LIST

Code	Piece	No.	Dimensions
A	Leg	4	2 x 4 - 14¾
B	Stretcher	2	2 x 4 - 14¾
C	Cleats	4	2 x 2 - 17¾
D	Seat	10	2 x 2 - 42
E	Back Support	2	2 x 4 - 18½
F	Tapered Psc.	2	2 x 4 - 15
G	Back	8	1 x 2 - 42
H	Front & Back	2	2 x 4 - 72
For Planter Box		1	1 x 8 - 96
For Butler's Tray		1	1 x 8 - 96

Misc: (22) ¼ x 3" lag screws; (12) ¼ x 3" carriage bolts; (44) ¼" washers; (12) ¼" hex nuts; 10d gal. casing nails

PLANTER BOX

This is just your basic box. Cut the six pieces from a 1x8-8' to length: (A) is 15"; (B) is 17¼"; and (C) is 17¼". Treat all pieces with wood preservative. Assemble the sides with resorcinol glue and 6d



finishing nails. (Actually I used panel adhesive instead of resorcinol glue; it's cheaper and easier.)

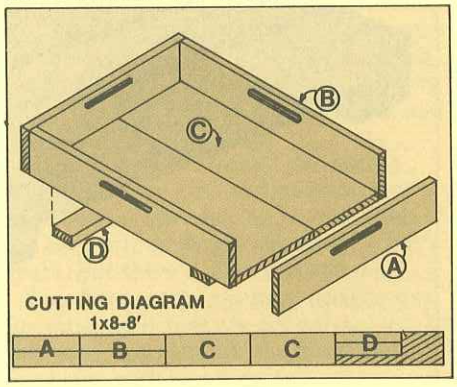
Rip the two bottom pieces (C) a little at a time until they fit snugly in the bottom. Cut (D) 9" long from scrap left over from the bench. Bolt it to the end pieces with 1½" carriage bolts and drill ¼" holes for the rope handles.

BUTLER'S TRAY

The tray is a take-off on a Butler's table. From a 1x8-8' cut two lengths for sides: (A) is 15" and (B) is 19¼". Then rip them down the middle. For the handle slots drill 1" holes centered 4" apart and cut out the material between with a sabre saw.

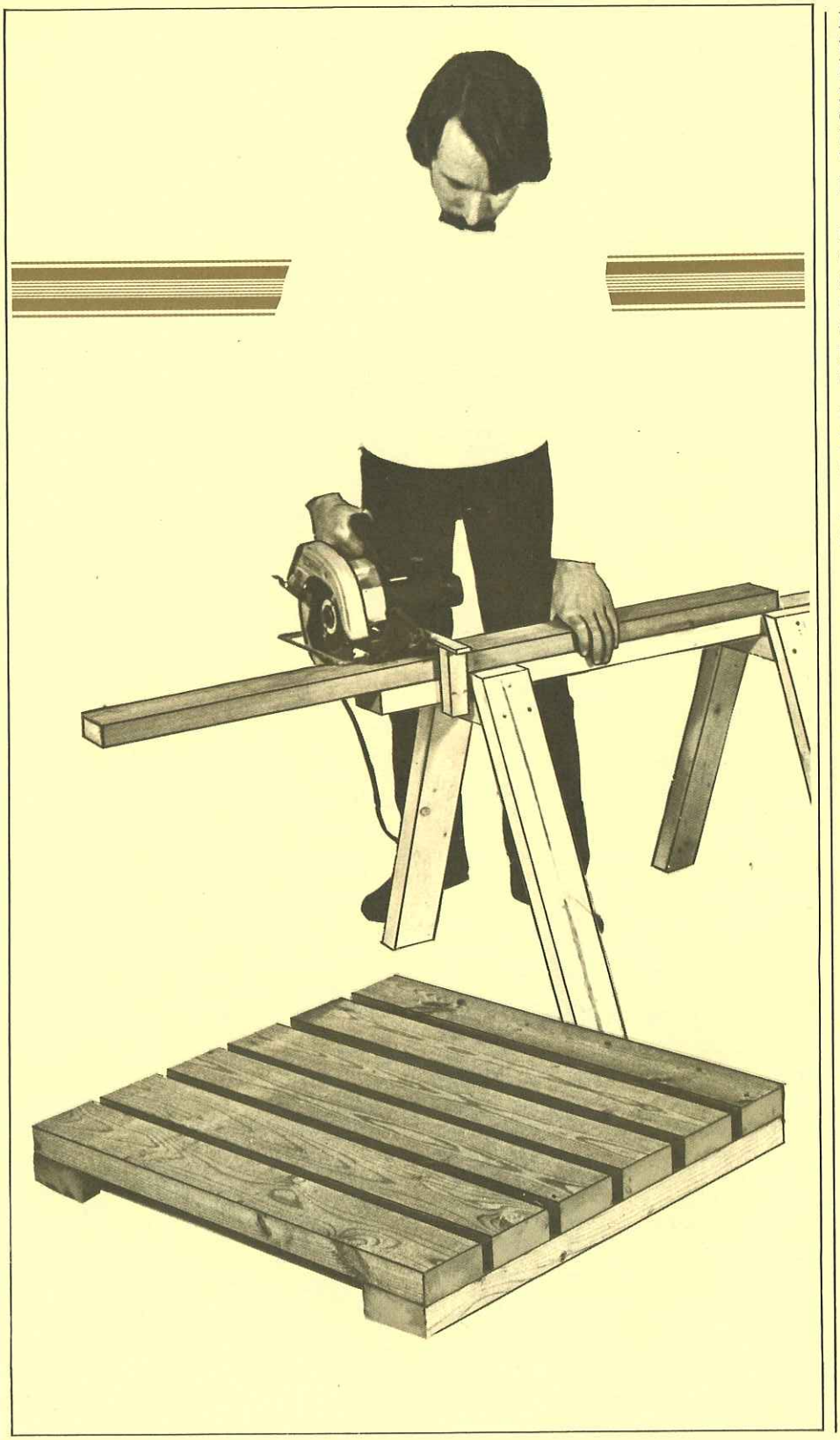
The bottom pieces (C) need only be cut to length, no ripping necessary. Treat all of these pieces with wood preservative before assembly.

Glue and nail the side and end pieces to the bottom pieces using 6d finishing nails, countersinking and filling with wood putty. The bottom cleats (D) are 15" x 2". Nail the cleats (no glue) 1-3/4" from the ends with 3/4" brads.



Deck Squares

AN EASY, INEXPENSIVE WAY TO A DECK



It sure would be nice to have a deck. Has that thought been rumbling around in the back of your head for the last couple of years? Maybe you've put off building a deck because of the expense and the hassle of construction. (I know I did.) Well, I came up with a simple solution. Deck squares.

We usually think in terms of a deck made of wood and elevated. And a patio made of concrete, brick, or stone and ground-level. Deck squares are a combination of both these concepts. The squares are made of wood, but they're placed at ground level with no posts or support beams to worry about.

The illustration at left shows how to build the simple 2′ x 2′ square using lengths of 2x4 — two cleats on the bottom and six pieces on top.

Each square is made of eight 2′ lengths of 2x4. Cut the eight pieces from two 2x4-8′ and everything will come out even with no waste.

I thought it would be nice to have a convenient and easy way to cut all these pieces outdoors. All you have to do is nail some scraps to the sides of a sawhorse. The scraps form a "U" shape.

Use your portable circular saw to determine the placement of the "U". The "U" acts as a stop for the base plate on the circular saw, so measure the distance from the blade to the edge of the base plate. Then measure off the same distance from the end of the sawhorse and nail the "U" there.

Put a 2x4 on the sawhorse and run it out 2′. A handy way to do this without measuring each time is to find a piece of 1x2 scrap and nail a small block on it 2′ from the end. Then put the end of the 1x2 against the end of the sawhorse and run the 2x4 out to the stop block.

Nail the deck squares together with 7d galvanized box nails from the bottom of the cleat through the top pieces. The six top pieces are spaced about 9/16″ apart.

To put the deck squares in place, remove the grass and soil to a depth of 4″. Then fill with 2″ of sand and put the deck squares on top.

I used *Outdoor Wood* to build these deck squares (see page 11). Just put them directly on the sand (no extra treatment is necessary) and you have a deck.

Since each square is 2′x2′ and is made from two 2x4-8′, determining the amount of wood needed is a snap. Simply decide the size you want your deck to be, buy the 2x4s, and start sawing and nailing.

Outdoor Furniture

IT'S NOT NICE (BUT IT HELPS) TO FOOL MOTHER NATURE

Good Ol' Mother Nature has a way of challenging you when you build something for outdoor use. The effects of the sun, rain, humidity, insects, and wide variations in temperature require a slightly different approach than what we're used to for indoor furniture and projects.

While I was working on the projects for this issue, I collected some notes and thoughts about outdoor furniture construction. Some of these notes are scattered throughout the issue, but I thought it would be a good idea to consolidate them on one page. So, here goes.

REDWOOD, CEDAR, CYPRESS

Three kinds of wood are well suited for outdoor uses: Redwood, Western Red Cedar, and Bald Cypress. The heartwood of all three of these species has a high natural resistance to decay, which makes them ideal for outdoor projects. Redwood and Bald Cypress are also termite resistant (the little rascals just don't like the taste of the natural extratives in the wood).

I'd like to make a few comments about each of these woods. First, *redwood.* I don't think you can beat clear, all heart redwood for building outdoor furniture. It just has a natural beauty that seems to say "outdoors".

California Redwood comes in seven grades, though most lumber yards usually carry only two: Clear, All Heart (which is sometimes called finish grade) and Construction Common. Clear, All Heart redwood is the top of the line. It's cut from the heart of the tree and should not contain any sapwood or any knots on the face side (although you might be able to find one or two on the reverse side). Clear, All Heart redwood is quite expensive, and to my way of thinking, it really should be reserved just for furniture building.

Construction Common contains knots, and some sapwood (cream-colored streaks). This grade is best used for planters, fences, and small projects where "looks" are not so important.

Western Red Cedar is a beautiful, light-weight wood that's very easy to work with. It's one of my favorite woods to saw just because of the aroma. Cedar is particularly suited for planters and fences, though it should be treated with a wood preservative for both these applications.

One last point about redwood and cedar. Most redwood comes surfaced (smooth) but it is also available with a resawn (or textured) finish. Cedar is available surfaced, resawn, and rough-cut. Resawn (textured) cedar is quite nice for projects where a rustic or "outdoor" look is wanted. Rough-cut cedar has a very rustic look, but you want to be careful where legs or small hands could pick up a splinter.

As far as *Bald Cypress* goes, I have to admit that I haven't had the chance to work with it. Cypress is widely available in the South, but hard to find in the North and West. Those of you in the South probably know more about working with it than I do.

PRESSURE-TREATED WOOD

I'd like to add a fourth wood to the three discussed above: *Outdoor Wood. Outdoor Wood* is a trademark for pressure-treated wood produced by the *Koppers Company.*

Now I'm going to sound like a salesman for just a minute, but I really think that *Outdoor Wood* is an excellent product and worth knowing about. The *Koppers Company* developed a system for pressure treating wood (usually Southern Yellow Pine) with *Wolman* preservatives.

The result is a wood that's virtually indestructible — at least from rot, insects, and fungus. It can be sawed, drilled, or nailed without affecting its protection. And, it can be used in direct contact with soil (even buried) with no extra treatment. It also has no ill-effects on plants. Now, all of that makes it a pretty good deal in my book.

One last thing, the dealer may say that he carries *Wolmanized* wood (what *Outdoor Wood* used to be called) but check to see if it's stamped "Outdoor Wood" to make sure of what you're getting.

WOOD PRESERVATIVES

Though the heartwood of cedar, redwood and cypress is rot-resistant, the sapwood is not. That's why it's a good idea to protect your projects with a coat or two of wood preservative — particularly when the wood is in direct contact with soil.

Wood preservatives protect wood from rot, mildew, and insects. That's good. But they may also do some things that are not quite so desirable. For example, wood preservatives based on pentachlorophenol, penta for short, are great for treating posts, fences, and shelters, but penta is toxic to plants for several weeks after it is applied to the wood.

If you plan to build a planter box, I'd suggest that you use a wood preservative based on copper or zinc. Those based on copper leave a greenish cast to the wood that you may find objectionable if you're not going to stain or paint it. For a relatively clear finish I use one based on zinc (*Cuprinol No. 20*).

GLUES AND ADHESIVES

Since outdoor projects are subjected to the effects of rain and humidity, adhesives should be waterproof. There are three adhesives that I would suggest for outdoor applications.

1) *Resorcinol Glue. (U.S. Plywood, Elmer's)* This is a very strong and completely waterproof glue. It comes in two parts: a liquid resin and a powdered catalyst that must be mixed.

2) *Plastic Resin Glue. (Elmer's, Weldwood)* These glues are not rated as waterproof but they're very close to it. If your project is going to be sheltered from the rain and not in contact with soil, these glues will do a fine job. They are a powder that you mix with water.

3) *Panel Adhesives. (Liquid Nails, Gulf Panel Four, etc.)* These are mastic adhesives that come in tubes. Though generally used in construction work, they can be used on some smaller projects. Just make sure the brand you buy says "waterproof".

GALVANIZED NAILS

You've seen fences with dark streaks running down from the nails. To avoid those streaks use high-quality, hot-dipped galvanized nails. Hot-dipped nails come in all sizes of box nails and usually 10d and 16d casing nails. But make sure they're hot-dipped (with a thick coating). Check the nails first. If they're already starting to rust, go somewhere else and buy better quality nails.

Most bolts are already galvanized (along with the nuts and washers that go with them). The coating is very thin, so the bolts will probably get rusty in a few years, but there's little you can do.

For finer work you may need to use finishing nails that are not galvanized. In this case, countersink the nails and fill the holes with wood putty.

Hanging Planter

SCRAP WOOD PROJECT FOR HANGING PLANTS

After building the projects shown in this issue, I had just a few small scraps left over. Rather than dreaming up a scrap wood project first and then trying to find the scraps to fit, I did just the opposite. I looked at the scraps and tried to figure out what to build with them. It was a challenging exercise.

Now, I'll grant you that this may not be the most original or best designed project the world has ever seen. But it fit my requirements. That is, to build something from the scrap I actually had on hand.

To get the eight pieces I needed for this project, I ripped a couple of pieces of 2x4 to 3/4" widths. This produced (magically) 1x2s. Then it was just a matter of cutting notches (3/4" wide by ½" deep) in four of the 1x2s. The distance from the end of the 1x2 to the notch was determined by the size of the pot. The diameter of the pot I used (just below the rim of the top band) turned out to be 5-3/4". That was the spacing I needed between the notches.

Four of the 1x2s are cut with the notches on both the top and bottom edge. The other six 1x2s have no notches, they're only cut to length.

I can't give exact measurement for the length of each 1x2 because that will vary according to the size of the pot.

For mine each piece was 11" long. There is a 2" overhang on each side of the notches. You can use these general proportions and alter them to fit the situation.

Assembly is a little trickier than it looks. First, position the bottom two 1x2s. Then put a dab of panel adhesive in the notches of the second layer. Put them in position and nail through the top notch with a 1" brad. (You'll need a nail set to fully seat the brad.)

Add another dab of panel adhesive to the top notches and put the third layer of 1x2s in position. These are nailed with 6d finishing nails. Then continue the same way, adding as many layers of 1x2s as you want.

The photograph shows the hanger supported by lengths of ¼" rope. You can attach screw eyes at each of the four corners and thread the rope through them. Or, if you enjoy macrame, knot up a fancy hanger with some jute. You don't hang it at all. Just place it on your plant table and put the pot inside. (The rim rests on the edges of the 1x2s.) No matter how you do it, this plant holder is a nice way to combine the natural beauty of wood with plants and flowers.

